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she has made three reports on her studies.¹⁰ The work has been carried on in Southern England, and careful effort was made to compare conditions in several different counties. It is concluded that some weeds are ubiquitous, occurring on all soils, whereas other weeds are definitely symptomatic. Symptomatic species are most in evidence on chalk, although it is to be noted that most of the weeds which are calcifuges in Bedfordshire are calcicoles in Wiltshire and Somerset. Examples of such reversal are *Chenopodium album* and *Bartsia Odontites*; *Poa annua* is about the only consistent calcifuge observed. In one place a mingling of chalk plants and "acid plants" was explained by a non-calcareous surface soil overlying a chalk subsoil. In some cases the character of the crop influences the weed population, as in certain leguminous seed crops. Some plants, as the mayweeds (*Anthemis*, *Matricaria*), are impatient of competition.—H. C. COWLES.

Morphology of *Macroglossum*.—*Macroglossum* is a new generic type of the Marattiaceae described in 1909 by COPELAND from material obtained from Borneo. A recent visit to this region enabled CAMPBELL to secure material of this fern, and he has now published an account of its structure and affinities.¹¹ The genus now comprises two species, the second one having been found growing in the botanical gardens at Buitenzorg, but of unknown origin. The species studied is a large plant, the leaves reaching sometimes a length of 4 meters. It belongs to the *Angiopteris* group, related apparently most nearly to *Archangiopteris*. It differs much in general appearance from *Angiopteris*, as well as in its much elongated and partially immersed sori. The sporangia also are smaller and very much more numerous than those of *Angiopteris*. The gametophyte may reach a length of 3 cm., and branching is not uncommon. The antheridia occur on both surfaces, and the number of sperm mother cells is probably greater than in any other of the Marattiaceae. The embryo develops a conspicuous suspensor, as in *Danaea*. The author also describes certain anatomical details, comparing them with those of the other Marattiaceae.—J. M. C.

Leaf-sheath trichomes in grasses.—In many grasses, especially those of xerophytic and alpine habitats, the leaf sheaths do not decay immediately after death. Instead of this they remain, forming a sort of mantle about the young sheaths. That this feature is especially characteristic of xerophytic grasses was noted in 1890 by HACKEL, who regarded the mantles as having a protective function, tending to reduce transpiration. H. BROCKMANN-JEROSCH¹²

¹⁰ BRENCHELEY, WINIFRED E., The weeds of arable land in relation to the soils on which they grow. *Ann. Botany* 25:155-165. 1911; 26:95-109. 1912; 27:141-166. 1913.

¹¹ CAMPBELL, D. H., The structure and affinities of *Macroglossum Alidae* Copeland. *Ann. Botany* 28:651-669. pls. 46-48. figs. 8. 1914.

¹² BROCKMANN-JEROSCH, H., Die Trichome der Blattscheiden bei Gräsern. *Ber. Deutsch. Bot. Gesells.* 31:590-594. pl. 1. 1914.